

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-20 (Canceled)

21. (New) An application unit comprising:

a) - at least one protocol stack for wireless communication using a mobile communication network;

- at least one physical interface; and
- at least one application adapted for exchanging data traffic with said at least one protocol stack within the application unit, said data traffic and protocol stack being adapted for wireless communication using said mobile communication network;

b) wherein said at least one protocol stack is adapted for processing said data traffic from said at least one application and transferring the processed data traffic to said at least one physical interface;

and wherein

c) said at least one protocol stack is adapted for receiving via said at least one physical interface at least one internet protocol, IP, packet containing flow control information;

d) said at least one IP packet is sent via said at least one physical interface from a modem unit responsible for setting up a wireless connection with said mobile communication network;

e) said flow control information is collected by the modem unit and contains information about the actual status of the wireless connection set up by the modem unit;

f) further flow control information is derived from said information about the actual status of the wireless connection and comprises predicted information about a future status of the wireless connection; and

g) the prediction is performed in the modem unit or in the application unit and the prediction is sent to the respective other unit via said at least one physical interface .

22. (New) The application unit according to claim 21,
wherein
said application unit is adapted for transmitting to said modem unit at least one of:

- QoS profiles of said applications, or
- a request sent to the modem unit to trigger the modem unit to send IP packets containing said flow control information to the application unit.

23. (New) The application unit according to claim 21,
wherein

an application unit collector for extracting said IP packets containing flow control information out of an IP packet flow.

24. (New) The application unit according to claim 21, wherein,
the application unit collector builds at least one IP packet which is used to request flow control information from the modem.

25. (New) The application unit according to claim 21, wherein
when requesting flow control information from the modem, the application unit collector uses in an authentication protocol as username a desired IP address.

26. (New) The application unit according to claim 21,
wherein
a first QoS packet processor module in the protocol stack of the application unit adapted for at least one of monitoring and modifying the data traffic.

27. (New) The application unit according to claim 21,
wherein
a media sense unit responsible for detecting
a) which modem is connected to the application unit, and/or
b) whether this modem is usable at the moment; and/or
c) which parameters are supported by the modem.

28. (New) The application unit according to claim 21,

wherein

a decider module for controlling the data flow for optimum quality of service based on the received flow control information;

wherein the decider uses a look-up table for deriving the decisions;

wherein the lookup table has a higher layer protocol stack state and the flow control information as input and an action to be taken for the higher layer protocol stack of the application unit as output.

29. (New) A modem unit responsible for setting up a wireless connection with a mobile communication network comprising:

a) a broadcast facility adapted for setting up a wireless connection for mobile communication;

b) at least one transmission protocol stack adapted for transferring data traffic between said broadcast facility and at least one physical interface;

wherein

c) a sub-collector for collecting flow control information about the status of the wireless connection from said transmission protocol stack;

d) a unit for creating at least one IP packet containing the flow control information; and

e) a sender for sending said at least one IP packet from the modem unit via said at least one physical interface to an application unit connected to the modem unit via said at least one physical interface;

f) wherein said flow control information comprises predicted information about a future status of the wireless connection; and

g) wherein the prediction is performed in the modem unit.

30. (New) The modem unit according to claim 29, wherein
a second QoS packet processor module adapted for at least one of monitoring
and modifying the data traffic between said at least one physical interface and the
transmission protocol stack.

31. (New) A user equipment comprising at least one application unit according
to claim 21 that is connected, via said at least one physical interface, with a modem
unit.

32. (New) The user equipment according to claim 31, wherein
said modem unit and at least one of the application units are implemented as
one embedded mobile device, preferably as a smartphone.

33. (New) A method for optimizing data flow in a distributed user equipment
for mobile communication,

a) said user equipment comprising at least one application unit and a modem
unit responsible for setting up a wireless connection with a mobile communication
network, wherein the modem unit is connected to the application unit via at least one
physical interface;

b) with at least one application being installed on at least one of the application
units;

c) wherein the modem unit is adapted for setting up a wireless connection for mobile communication;

wherein said method comprising the steps of:

d) within the modem unit collecting flow control information about the status of the wireless connection;

e) within the modem unit creating at least one IP packet containing the flow control information;

f) sending said IP packets from the modem unit to the application unit via said at least one physical interface;

g) controlling the data flow in the application unit for optimum quality of service based on the received flow control information;

h) wherein said flow control information comprises predicted information about a future status of the wireless connection; and

i) wherein the prediction is performed in the modem unit.

34. (New) Computer program product, comprising computer program code means,

wherein the program code means can be stored or are stored on a storage medium; and

wherein the program code means are adapted to perform the method of the method claim 33, if the program code means are executed on a mobile device, a processing system, or a digital signal processor.

35. (New) A computer loadable data structure, that is adapted to perform the method according to the method claim 33 while the data structure is being executed on a mobile device, a processing system, or a digital signal processor.

36. (New) A computer program, wherein the computer program is adapted to perform the method according to the method claim 33 while the computer program is being executed on a mobile device, a processing system, or a digital signal processor.

37. (New) A computer program comprising program means for performing the method according to the method claim 33 while the computer program is being executed on a mobile device, a processing system, or a digital signal processor.

38. (New) A computer program comprising program means according to claim 34, wherein the program means are stored on a storage medium readable to a computer.

39. (New) A storage medium, wherein a data structure is stored on the storage medium and wherein the data structure is adapted to perform the method according to the method claim 33 after having been loaded at least partially into a main and/or working storage of a mobile device, a processing system, or a digital signal processor.